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## **CLAIMS**

1. A rotary distribution apparatus including:

a fixed inner distribution member with an inner conduit zone;

a rotatable outer distribution member rotatable about the fixed inner distribution member;

a plurality of fluid distribution chambers located between the fixed inner distribution member and the rotatable outer distribution member;

each fluid distribution chamber having a fixed port in the fixed inner distribution member to which a fixed supply or return conduit for a fluid can in use be connected, and at least one distribution port in the rotatable outer distribution member;

at least one indexing arrangement including a rotatable indexing member and a fixed indexing member;

a plurality of passageways extending through each of the rotatable and fixed indexing members, the plurality of passageways each having indexing ports and connection ports with the indexing ports being provided in an indexing surface; and

the connection ports of the rotatable indexing member in use being connected to the distribution ports of the distribution chambers by connecting conduits, and the connection ports of the fixed indexing member in use being connected to process chambers by fixed conduits;

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so that, in use, when the rotatable outer distribution member, the rotatable indexing member and the connecting conduits are rotated, fluid fed to a fluid distribution chamber is sequentially fed to the process chambers and returned from the process chambers to other fluid distribution chambers as the indexing ports of the rotatable indexing member index relative to the indexing ports of the fixed indexing member.

2. The apparatus of claim 1 wherein the fixed inner distribution member is fixed to the fixed indexing member, and the rotatable outer distribution member is fixed to the rotatable indexing member, with the rotatable outer distribution member and the rotatable indexing member being rotatable about a common axis.
3. The apparatus of claim 1 or claim 2 wherein each indexing member has two concentric rings of passageways defining a plurality of pairs of passageways, with each pair of passageways consisting of a supply passageway and a return passageway.
4. The apparatus of claim 1 or claim 2 wherein each indexing member has a single ring of passageways.
5. The apparatus of claim 4 including two indexing arrangements located one at either end of the distribution members.
6. The apparatus of any one of the above claims including a pressure chamber housing for a pressure chamber so that in use the pressure of fluid in the pressure chamber maintains the indexing face of the rotatable indexing member in contact with the indexing face of the fixed indexing member.
7. The apparatus of claim 6 wherein the pressure chamber is located between the rotatable indexing member and the rotatable outer distribution member, and wherein the pressure chamber housing is

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rotatable about a common axis together with the rotatable indexing member and the rotatable outer distribution member.

8. The apparatus of any one of the above claims wherein the fluid distribution chambers extend circumferentially around the fixed inner distribution member.
9. The apparatus of any one of the above claims including at least two fluid supply distribution chambers and at least one fluid return distribution chamber.
10. The apparatus of any one of the above claims including seals between the fixed inner distribution member and the rotatable outer distribution member to seal the fluid distribution chambers from one another.
11. The apparatus of claim 10 wherein the seals are fixed to and rotatable with the rotatable outer distribution member.
12. The apparatus of any one of the above claims wherein the inner conduit zone of the fixed inner distribution member comprises a hollow core into which conduits can extend.
13. A rotary distribution apparatus substantially as herein described and illustrated with reference to the accompanying drawings.